To Whom It May Concern:

I am the owner and engineer of a manufacturing company in Branford called Spark Cycleworks. We've been designing and building electric bikes and mopeds since 2018. Before addressing my main concerns centered around the new bill, I would like to remind you of the following

1) According to the Society of Automotive Engineers, roughly 75% of all auto drives are less than 10 miles and about 90% of drives are less than 15 miles.

2) The average ebike/emoped costs less than $0.12 to charge, has a 30 mile range, can travel between 20-35mph, and get a cost equivalent of 950-1,300 mpg.

3) In comparison to states like California, Connecticut is severely lacking in safe bike travel spaces. Riders are forced to travel in breakdown lanes, risking constant flat tires and encountering reckless drivers. As a result, higher speed ebikes are surprisingly safer in our riding environment because of their ability to travel with traffic.

4) Our hilly terrain makes riding a nonelectric bicycle a challenge for commuting to work.

Concern #1: Price Caps

I'm aware that there is discussion on the inclusion of electric bikes to be part of the legislation and one of my concerns is centered around setting a possible cap on the price of bikes that would qualify. We are constantly analyzing our customer basis and have found a trend that seems counterintuitive but is consistent across our competitors. Most of our riders are still considered earlier adopters, but the demographics break down like this:

1. Our lower cost bikes, ranging from $1,000-$1,500 are majority purchased by higher income households and individuals over the age of about 50. These early adopters enjoy having them on weekends for running errands or bringing on trips with them.
2. Our higher cost bikes, ranging from about $3,000-$4,000 are majority purchased by lower income households by individuals between the ages of about 30-40

The reason is simple, the more expensive bikes are more powerful, can travel farther, and have comfort features like full suspension. This makes them a more legitimate alternative to driving cars in New England. This is not to say that there isn't a realm where the cost of ebikes get overpriced for what they offer. There are plenty of premium brands in the $5k+ price point that provide no advantage other than brand recognition. However, at that price, you now encounter entry level electric motorcycles. As a result, I would highly advise eliminating the added complexity of a cap. (example of entry electric motorcycle: https://www.onyxmotorbikes.com)

Concern #2: Rentals vs Ownership and the Influx of Low Quality ebikes

It is our opinion that scooter and bike rental programs have the potential for negative impacts in comparison to ownership. I would encourage you to do a financial evaluation that compares the cost of purchasing bulk low-cost electric bikes for renting, plus damage costs resulting from riders with no sense of product ownership, plus the insurance costs of inexperienced riders getting injured, plus the logistical costs of maintaining these fleets. This in comparison to a voucher program that would encourage individuals purchase their own vehicle, provide better care for the vehicle, and eliminate inexperienced riders getting injured. I would also encourage an analysis of the massive influx of low quality ebikes coming to market online that have zero customer service in the event of an issue that have the potential for massive customer service issues. Instead, a trusted network of facilities that can work on ebikes and a trusted network of verified ebike companies should be encouraged. Please review this: https://www.theatlantic.com/photo/2018/03/bike-share-oversupply-in-china-huge-piles-of-abandoned-and-broken-bicycles/556268/

Concern #3: Electrification of Non-Electric Bikes

Another suggestion I might offer is a program that would help electrify regular bicycles. If you look at what has happened in china, there is an enormous surplus of regular bikes that need to be recycled and are causing a backup because of the shift to ebikes. There is also a major problem with gasoline vehicles such as the beloved Honda Cub. There are currently initiatives to electrify these gas bikes to further prevent a recycling problem. (Review: https://electrek.co/2021/02/25/honda-e-cubs-how-many-could-we-convert-to-electric/

A few additional notes I would like to give after listening 5 hours of the hearing on March 11:

In regard to concerns to about providing utility options for home charging. I would like to again remind you about the ASME's findings on drive lengths. I would also encourage more funding to be directed to businesses to install charging options for employees and customers. Installing a series of charging spots in a parking lot is far more cost effective and easier to maintain than installing in a 100 year old farm house. They also have the potential to serve as revenue streams for the state. Additionally, swapping out parking meters for a combo parking meter and charge station further expands opportunity for state revenue. As far as power surges, you simply need to install battery banks such as a Tesla Powerwall that charge during the off hours and can be used during daylight hours by drivers.

I look forward to speaking further with you all,
Matt Schell